REMARKS

Reconsideration and allowance of the above-referenced application are respectfully requested.

I. STATUS OF THE CLAIMS

Claims 1, 4, and 9 are amended herein.

In view of the above, it is respectfully submitted that claims 1, 4 -6, and 9 - 12 are currently pending and under consideration.

II. REJECTION OF CLAIMS 1, 4-6, AND 9-12 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER GADH ET AL. (US 6,629,065) IN VIEW OF CONKLIN (US 6,753,865)

Claim 1 of the present invention, for example, relates to an animation creating/editing apparatus, which comprises "an interference detecting unit detecting an occurrence of interference between objects based on position/direction and shape information of the three-dimensional model information, which is caused by executing the object operation instruction; an interference avoiding unit generating an object operation instruction to avoid the interference, if the occurrence of the interference is detected by said interference detecting unit; a discontinuity detecting unit detecting an occurrence of discontinuous scenes, which is caused by executing the eye point operation instruction or the object operation instruction; and a complementary instruction generating unit generating an object operation instruction or an eye point operation instruction to generate a scene which complements between the discontinuous scenes, if the occurrence of the discontinuous scenes is detected by said discontinuity detecting unit."

Gadh et al. ("Gadh") relates to computer-aided design (CAD) systems, and methods usable in CAD systems, which allow extremely rapid creation of "rough" or conceptual geometric models of objects without having to precisely describe the specific dimensions, location, and other characteristics of their geometric subcomponents.

The Examiner alleges that Gadh teaches the claimed interference detecting unit and the claimed interference avoiding unit. In column 22, lines 52-56, Gadh discloses, "[w]hile the constrained location and alignment commands provide a quick way to position shape elements, the bounding box-based intersection checks provide the ability to detect potential collisions between elements."

It is noted that Gadh checks whether an intersection between objects occurs or not, in

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creating or editing the objects (see column 24, lines 33-62). However, <u>Gadh</u> describes, when an intersection is detected, the user is warned and asked for instructions (see column 29, lines 5-7 and column 31, lines 40-44). That is, the system of <u>Gadh</u> does not automatically generate instructions sequence to avoid the interference. Therefore, <u>Gadh</u> fails to disclose or suggest a feature corresponding to the interference avoiding unit recited in claim 1 of the present invention.

The Examiner further relies on the teachings of <u>Conklin</u>. <u>Conklin</u> relates to a system and method for generating video frames.

<u>Conklin</u> is fundamentally different from the present invention, and further, is fundamentally different from the teachings of <u>Gadh</u>. For example, the Examiner relies on steps 504 and 506 in FIG. 5 of <u>Conklin</u>, which respectively state, "Acceptable To Generate Intermediate Frame(s)?" and "Generate Intermediate Frame(s)." The Examiner broadly concludes that step 504 teaches, "where intermediate frames are generated when there is discontinuity" and step 506 teaches "where the intermediate frames are complements to the discontinuous scenes." However, there is nothing in <u>Conklin</u> that discloses or suggests "a discontinuity detecting unit detecting an occurrence of discontinuous scenes, which is caused by executing the eye point operation instruction or the object operation instruction" and "a complementary instruction generating unit generating an object operation instruction or an eye point operation instruction to generate a scene which complements between the discontinuous scenes, if the occurrence of the discontinuous scenes is detected by said discontinuity detecting unit."

Further, it is noted that <u>Conklin</u> checks the difference between two *already existing* frames. By contrast, for example, the discontinuity detecting unit of the present invention determines whether or not a discontinuous scene will be caused by executing an instruction (see claim 1). In other words, the present invention determines whether a scene *occurring in the future* will be discontinuous to the current scene or not.

Also, according to <u>Conklin</u>, the interpolation between frames is not performed when there is a great difference between the two frames (that is, when they are "discontinuous"). This is opposite to the operation of the claimed complementary instruction generating unit. The Examiner seems to have misunderstood this feature by merely looking at steps 504 and 506 in the flowchart (FIG. 5 of <u>Conklin</u>) showing an outline (see the citation starting at line 4, page 5 of the Office Action).

A more detail flowchart shows that the "state" (see column 7, TABLE 1) is determined by

the processes in FIGS. 6-8 of <u>Conklin</u>. Then in FIG. 9, when the state is BIG_CHANGE or HIGH_ACTION, it decides not to generate intermediate frames (see steps 1009-1010, 1016-1020; column 13, lines 18-34; and column 14, lines 49-60). That is, <u>Conklin</u> has determined that an inappropriate interpolation between "discontinuous" frames can produce "strange results" (see column 2, line 34) and the interpolation should not be performed in such a case. The determination seems to be based on three-dimensional model information of the objects in an image not existing in <u>Conklin</u> and the interpolation is performed only using the image and motion vector.

By contrast, according to the present invention, an appropriate scene can be generated from the three-dimensional model information and instruction since the objects are managed by the three-dimensional model information. Thus, for example, the interpolation does not cause "strange results." Therefore, <u>Conklin</u> fails to disclose or suggest the discontinuity detecting unit and the complementary instruction generating unit as recited in claim 1 of the present invention.

Accordingly, <u>Gadh</u> and <u>Conklin</u>, either alone or in combination, do not disclose or suggest the features recited in claim 1 of the present invention. It is noted that the Examiner has not presented any evidence why <u>Gadh</u> and <u>Conklin</u> would have been combined. The mere fact that references *can* be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. MPEP § 2143.01. Specifically, there must be a suggestion or motivation in the references to make the combination or modification. <u>Id.</u>

Independent claim 6 recites similar features as claim 1. That is, claim 6 recites, "storing an object configuring an image of an animation as three-dimensional model information in a first storing unit, wherein the three-dimensional model information has a tree structure configured by a plurality of hierarchies which represent constraint conditions of the three-dimensional model, and each of the hierarchies are composed of plural nodes which represent position/direction and shape information of the three-dimensional model; creating/editing an animation by creating/editing an operation instruction sequence, wherein the operation instructions sequence comprise object operation instructions and eye point operation instructions; detecting an occurrence of interference between objects based on position/direction and shape information of the three-dimensional model information, which is caused by executing the object operation instruction; generating an object operation instruction to avoid the interference, if the occurrence of the interference is detected; detecting an occurrence of discontinuous scenes, which is caused by executing the eye point operation instruction or the object operation instruction; and

generating an object operation instruction or an eye point operation instruction to generate a scene which complements between the discontinuous scenes, if the occurrence of the discontinuous scenes is detected." Thus, claim 6 also patentably distinguishes over <u>Gadh</u> and <u>Conklin</u>.

Claims 4 and 5 (depending from claim 1) and 9-12 (depending from claim 6) recite patentably distinguishing features of their own, and further, are at least patentably distinguishing due to their dependencies from independent claims 1 and 6. For example, claim 4 recites, "the three-dimensional model information holds a constraint condition between objects which represented by a node in a lower hierarchy of the three-dimensional model information is constrained by a node in a higher hierarchy; and a constraint detecting unit detecting an object operation instruction which violates the constraint condition as an error is further comprised, wherein an unconstrained object is freely moved as far as it does not interfere with another object, and, a constrained object having a predetermined movable range is moved within said movable range as far as it does not interfere with another object." Nothing in <u>Gadh</u> discloses or suggests the above-described features recited in claim 4 of the present invention.

In view of the above, it is respectfully submitted that the rejection is overcome.

III.   CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that each of the claims patentably distinguishes over the prior art, and therefore defines allowable subject matter. A prompt and favorable reconsideration of the rejection along with an indication of allowability of all pending claims are therefore respectfully requested.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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